

Market Structure and Marketing Efficiency of Beef Cattle in NTT (Case in Kupang Regency)

U.R. Lole

Faculty of Animal Science University of Nusa Cendana Kupang, Indonesia
email:ulrikus_lole@yahoo.com.

ABSTRACT

The aims of this research were to: 1) analyze potency of national cattle market to develop cattle in NTT, 2) analyze supply channel management of beef cattle in NTT and its efficiency, and 3) provide local government's role to develop cattle farm. Primary data based on questioners collected from farmers, trader, and companies. Secondary data collected from legal documents and publications. Potential and marketing opportunities analysis based on propensity models. Cattle market distribution channels were analyzed on scheme of marketing channels were carried out from farmers and traders. Marketing efficiency was analyzed by calculation of cost, and analysis of marketing margin. The research result indicated that, 1) beef cattle in NTT is a tradable commodity, and is the fifth position nationally, 2) beef cattle marketing in NTT is efficient in terms of the price. 3) Local government policy worked to optimize the beef cattle farm in order to optimize the livestock potency for society prosperity, domestic earnings, economic growth and change of economy structure and its sustainability.

Key words: beef, cattle, market structure, efficiency, NTT

INTRODUCTION

Economics of East Nusa Tenggara (NTT) province is predominated by agricultural sector. In Second Quarter of 2008, approximately 41.15% of Gross Regional Domestic Product (GDP) of NTT comes from agricultural sector. When observed more specifically, the leading of NTT agricultural sector are food crops and livestock. Livestock sub-sector growth in the Second Quarter of 2008 reached 15.35%, the highest among the other agricultural sub-sector.

NTT is a national livestock supplier region. Realization of livestock inter-insular trade in 2007, is exceeding the target with details of 63,036 cattles (156.61%), 7,745 buffalos (77.45%), and 7,881 horses (135.35%), while target of 2008 approximately 58,750 head. Cattles from NTT was distributed to Capital City of Jakarta, West Java, Batam, South Celebes, and other regions to stabilize national meat prices, especially during religious special day, in which approximately 90% of cattle for those three regions come from NTT.

Livestock Directorate General recorded balance of national beef production in 2008 is only reached 64.9% of projected consumption needs or there is a shortage of 135,110 tons

(35.1%) of the total demand of the meat. With population of 11.26 million heads, the national meat production is estimated up to 249,925 tons, while consumption of meat is estimated up to 385,035 tons. Indonesian Chamber of Commerce and Industry (Kadin) noted that Indonesia require 350,000-400,000 tons of beef per year (equivalent to 1,7-2 million beef cattle), which is the beef import is 30% of those were imported. Import policies carried out in order to support domestic production shortage (martinsihombing).

Market potential of beef cattle in Indonesian has a wide excess demand and NTT province can be a potential region of beef production. Statistic Biro of NTT (2006) provided that NTT cattle are mostly located at Kupang Regency (Kupang) and South Central of Timor (TTS). From a number of 544,482 beef cattle, about 260,406 heads were rear in these two districts. Thus, the study focused on those two regions in order to accelerate the economic development through beef cattle development. Local government development policies related to beef cattle productions discussed.

The aims of this research were: 1) to analyze and present the potency of the domestic beef cattle market as an opportunity to develop beef cattle business in NTT, especially in

Kupang; 2) to analyze the distribution/ marketing channel of beef cattle from East Nusa Tenggara (and Kupang in particular), and its efficiency. 3) to present the role of local government in supporting beef cattle development.

MATERIALS AND METHODS

The research was carried out in Kupang Regency by consideration of accessibility. District and village sample were taken purposively and with consideration of cattle population, developed cattle marketing, and distribution of supporting infrastructure of cattle production. Respondent of farmers were choose purposively from each village by high patterns of homogeneity consideration.

Primary data were collected by interviewed with farmers, livestock traders, and head of the institutions concerning with beef cattle industry. Primary data was collected refer to questionnaire. Secondary data was collected from various official documents and related publications.

Potential and marketing opportunities analysis based on propensity models. Cattle market distribution channels were analyzed on scheme of marketing channels were carried out from farmers and traders. Marketing efficiency was analyzed by calculation of cost, and analysis of marketing margin.

RESULTS AND DISCUSSION

Overview of Regional Economic of NTT and Kupang Regency

NTT GDP based on constant price in 2006 showed a significant increase from Rp12,877,107,214 (2004) to Rp16,729,571,469 (2006). In 2006, the agricultural sector is still dominant, which livestock subsector contributed about Rp1,936,536,193 (approximately 28.08%) of the total agricultural sector about Rp6,895,959,564.

Economy sectoral linkages of NTT indicated by IO analysis in 2006 (BPS of NTT, 2007). The agricultural sector has a value of forward linkages and backward which is not dominant compared to other sectors. The total index of agriculture forward linkages was in the third rank, of 2.009 (of which 0.581 was direct of and 1.428 was indirect forward linkage). While the backward linkages was in the sixth rank, of 1.416 (of which 0.278 was directly and indirectly backward was 1.383).

Kupang Regency GRDP in 2006 base on constant prices in 2000 were about Rp690,443,204,000 while in 2004 were about Rp632,789,351,000. Agricultural sector contributed about 45.86%, was the largest compared to other sectors. Livestock sector became the largest contributor in agricultural sector, i.e 18.24%.

National Market Potential of Beef Cattle and Possible Utilization

Data from Directorate General of Livestock, Department of Agriculture (2007), the exported of NTT beef cattle increased from 35,061 (2003) to 61,279 heads (2006) and was ranked 5th. The number of cattle exported reached 11.25% of the total population of 544,482 heads. NTT is one of the province as a potential and a regular contributor to the national beef needs, while West Java and Lampung is not continuous as a contributor to the expense of livestock (although always ranked first and second).

Exported of beef cattle from Kupang with destination of Capital City of Jakarta, West Java and several other provinces were fluctuated, but tended to increase from 10,760 heads (2000) to 33,570 heads (2007) with an average of 24,126 heads per year or growth of 26.37%. Meanwhile, exported of beef cattle from NTT in 2006 was 61,279 heads of which 33,453 heads (54.59%) came from Kupang. In 2007, exported of beef cattle from Kupang was 33,570 heads or 22.68% of population 148,044 heads (Talib, 2008).

Domestic meat production during 2003 to 2006 was increased from 1,872,600 tons to 2,063,900 tons. Beef meat contributed about 369,700 tons (19.74% of total national meat production) in 2003 and about 395,800 tons (19.19% of total national meat production) in 2006. In 2006, the largest contributor to beef production is West Java about 77,759 tons, while NTT produce 7,269 tons (1.83%).

In 2006, import of cattles breed were about 6,200 heads (equivalent to US \$2,545,500) and 265,700 heads (equivalent to US\$ 108,596,700), while beef imports was about 25,949.2 tons in 2006 (equivalent to US\$ 49,077,200). The big number of commodity imports and tend to increase is a challenge and opportunity to improve the national beef production, especially in potential areas.

According to distance and duration to transport cattle from the area and the same destination (Jakarta and West Java) is relatively short (4-5 days) for beef cattle from East Nusa

Tenggara, West Nusa Tenggara and Bali and other regions, compared to beef imports from Australia and New Zealand. Another advantage, beef cattle from NTT and other provinces are relatively younger with taste and quality of meat is more desirable.

Beef Cattle Marketing in NTT and in Kupang Regency Marketing Transaction System for Beef Cattle in Community Level

In Kupang Regency, the most dominant marketing agencies directly related to the breeder (*farmer, F*) are the collectors (*local assemblers, LA*). LA position determines the level of success of cattle business (especially farmers), because the LA was dominant in determined the level of sale price of cattle. Location of transactions are take place at the home of farmers, cooperatives/NGOs, village markets, slaughter (*butchers, B*), or stockyards owned by inter-island traders (*inter-insular traders, IT*). Ranchers would prefer to trade at home, because it is cheaper or no cost and avoid the risk of marketing (stress, accidents, regardless, or death).

At farmer level, generally base of price formation of cattle is weight, body condition, and age of cattle, where the formation of prices based on weight (weighed) began to dominate. Prices are usually refers to a benchmark price of quality standard price (body weight), but in practice the farmer's bargaining position was not strong enough, because the pricing is still dominated by LA and IT. This allegation comes as the market

beef products in this area is still oligopoly, so it possibly of a closed cartel formation created among IT.

However, the trend of cash payment that widespread at the level of breeder can minimize the delay in payment or loss of breeders. The involvement of farmer groups, cooperative and NGOs is very important to strengthen the bargaining position of farmers, so that marketing process becomes fairer.

At the level of LA and even IT, a common problem is the availability of working capital or business capital. Reality shows that almost all of LA is depend much on capital from IT. Similarly, almost all highly depend on IT capital of the merchant buyer (*wholesale receiver, WSR*) in Jakarta.

Bad consequences of dependence lead to unstable purchases capacity by LA and IT, stagnating purchase, and local merchants difficult to be independent. The problems reflects that the bargaining position of WSR (and owners of capital) in Jakarta is very powerful in determining the price.

The concentration of capital resulted in the level of the price situation is highly dependent on cattle price situation in Jakarta. In such conditions, then as a trader (LA and IT) always maintain and even increase business profits, in whatever of change in price situation in Jakarta. This will directly lead to depressed cattle prices at farmer level that have implications farmer's share are getting lower.

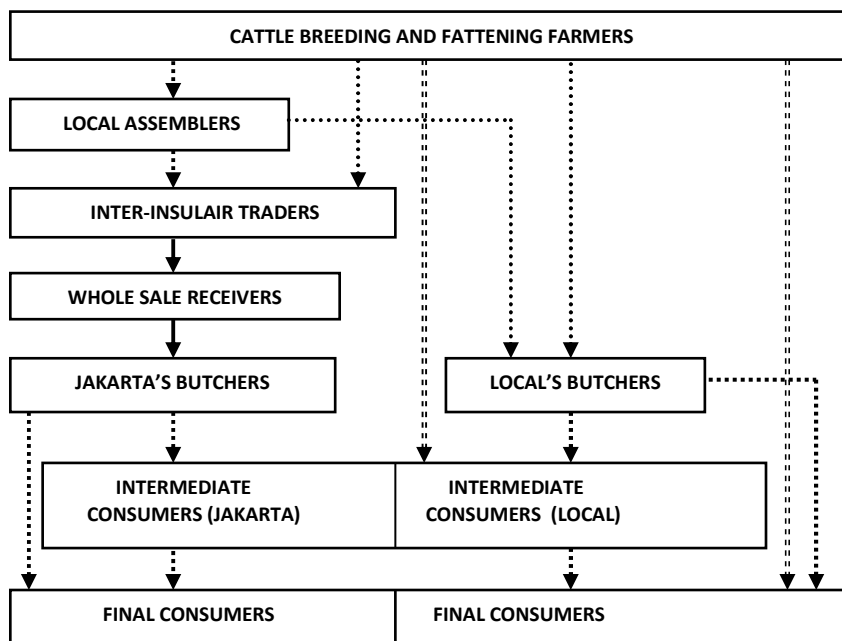


Figure 1. Marketing Channels of Beef Cattle and Meat from Kupang

Marketing Channel of Local and Inter-insular Life Beef Cattle

Parties along the beef cattle marketing channels (i.e. F, LA, IT, WSR, and B) and beef marketing channels (i.e. butchers (B), intermediate consumers (IC), and final consumers (FC) is a marketing channel itself. Shorter or longer the market channel depends on economic conditions and regional characteristics.

Several patterns of local marketing channels operating simultaneously are:

- a. F → LA → IT → WSR → B → IC → FC (Jkt)
- b. F → IT → WSR → B → IC → FC (Jkt)
- c. F → IT → B → IC → FC (Local)
- d. F → LA → B → IC → FC (Local)
- e. F → B → FC (Local)
- f. F → FC (Local)

Figure 1 shows the marketing channel of cattle from Kupang to the end consumer. The marketing channel is traditional route running since a long time ago. There are some old actors survive, in addition to new players. This shows that this business still promising profits, even though under the influence and market pressures, both direct and indirect.

Efficiency of Beef Cattle Marketing

Price forming is a central phenomenon in a market economy/free. Sell price formation is the accumulation and/or interaction of the size of the base price, availability of capital, marketing costs, and profits. In the beef cattle marketing, price formation occurs in every level of marketing channel (see Table 1). Price analysis and marketing margins in beef marketing channel in Kupang Regency showed in Table 2. Table 2 shows the price variations of beef cattle in farmer

level (i.e. the price at the level of F vs LA, F vs IT, or F vs B) is greater than the price variation in other levels (such as the LA vs IT, LA vs B, IT vs WSR, or WSR vs B). This is because farmers can sell their cattle to a different level of channel in unofficial price. In addition, prices at the farmer level was determined by estimated or weighed, which in general pricing breeders are still under pressure from a strong bargaining position of the trader. On the other hand, at level of traders (LA, IT, WSR, and B) the price of cattle has a relatively slight variations, because all of the cattle is weighted and the price is entirely based on the price-table agreed by market participants.

Table 3 shows the selling price from one marketing level to the next was increase, because the trader had some marketing function such as transporting, exchange/barter, and financing. The highest marketing costs is in IT level, because the IT hold some major marketing functions, particularly the transport functions (include shipment) from the collector trader in production area, inter-island transport, and distribute to the consumer area. Other costs were SP3, clinical test, quarantine, feed and water, livestock guard force (kleder), insurance, and unloading.

Table 3 indicate the benefit obtained by IT was Rp572,025.- (16.96%) on Channel I and Rp544,250.- (16.72%) on Channel II. This differences was caused by the selling price of IT to the WSR is higher and able suppressed the purchase price at the level of IT and F. Smallest gains obtained by LA in the amount on Channel I of Rp267,725 (2.30%) and Channel III registration Rp295,500 (3.15%). This is because the LA had a relatively small price difference between the price at the level of F and IT, in addition to the cost of components such as transportation costs, charges and village cooperatives, and labor.

Table 1. Point of price making in beef cattle marketing channels of Kupang regency

Point of Making Price		Inisial		
Farmer	vs Local Assembler	F	vs	LA
Farmer	vs Inter-insular trader	F	vs	IT
Farmer	vs Butchery	F	vs	B
Local Assembler	vs Butchery	LA	vs	B
Local Assembler	vs Interinsular trader	LA	vs	IT
Inter-insular trader	vs Whole Sale Receiver	IT	vs	WSR
Whole Sale Receiver	vs Butchery	WSR	vs	B

Table 2. Price analysis and marketing margin of cattle fattening in regency of Kupang

Marketing Channels	Price (Rp)				MC		MP		Share (%)	
	Pessimistic	Moderate	Optimistic	Average	Rp	%	Rp	%		
I	F	3,555,325	3,999,600	4,454,825	4,003,250	-	-	-	-	61.5
	LA	4,043,556	4,541,213	5,065,075	4,549,948	130,000	2.00	546,698	8.4	69.9
	IT	5,170,244	5,791,088	6,422,881	5,794,738	700,000	10.76	1,244,790	19.1	89.1
	WSR	5,558,325	6,221,600	6,895,825	6,225,250	75,000	1.15	430,513	6.62	95.73
	B Jkt	5,808,700	6,499,350	7,200,950	6,503,000	50,000	0.77	277,750	4.27	100.00
II	C Jkt	-	-	-	-	-	-	-	-	-
	F	3,805,700	4,277,350	4,759,950	4,281,000	-	-	-	-	65.83
	LA	5,170,244	5,791,088	6,422,881	5,794,738	700,000	10.76	1,513,738	23.28	89.11
	IT	5,558,325	6,221,600	6,895,825	6,225,250	75,000	1.15	430,513	6.62	95.73
	WSR	5,808,700	6,499,350	7,200,950	6,503,000	50,000	0.77	277,750	4.27	100.00
III	B Jkt	-	-	-	-	-	-	-	-	-
	F	3,555,325	3,999,600	4,454,825	4,003,250	-	-	-	-	85.22
	LA	3,805,700	4,277,350	4,759,950	4,281,000	130,000	2.77	277,750	5.91	91.13
	B Kpg	4,181,263	4,693,975	5,217,638	4,697,625	50,000	1.06	416,625	8.87	100.00
	C Kpg	-	-	-	-	-	-	-	-	-
IV	F	3,680,513	4,138,475	4,607,388	4,142,125	-	-	-	-	88.17
	B Kpg	4,181,263	4,693,975	5,217,638	4,697,625	75,000	1.60	555,500	11.83	100.00
	C Kpg	-	-	-	-	-	-	-	-	-
	C Kpg	-	-	-	-	-	-	-	-	-

Source: Primary and secondary data, 2008.

Table 3. The Average Cost, Profit and Marketing Margin of Beef Cattle in Regency of Kupang (2008)

Marketing Channel	Price (Rp)	Share (Rp)	Marketing Margin						
			Cost		Profit		Margin		
			Rp	%	Rp	%	Rp	%	
I	F	4,003,250	61.56	-	-	-	-	-	-
	LA	4,549,948	69.97	130,000	2.00%	416,698	6.41%	546,698	8.41%
	IT	5,794,738	89.11	700,000	10.76%	544,790	8.38%	1,244,790	19.14%
	WSR	6,225,250	95.73	75,000	1.15%	355,513	5.47%	430,513	6.62%
	B Jkt	6,503,000	100.00	50,000	0.77%	227,750	3.50%	277,750	4.27%
II	C Jkt	-	-	-	-	-	-	-	-
	F	4,281,000	65.83	-	-	-	-	-	-
	LA	5,794,738	89.11	700,000	10.76%	813,738	12.51%	1,513,738	23.28%
	IT	6,225,250	95.73	75,000	1.15%	355,513	5.47%	430,513	6.62%
	WSR	6,503,000	100.00	50,000	0.77%	227,750	3.50%	277,750	4.27%
III	B Jkt	-	-	-	-	-	-	-	-
	F	4,003,250	85.22	-	-	-	-	-	-
	LA	4,281,000	91.13	130,000	2.77%	147,750	3.15%	277,750	5.91%
	B Kpg	4,697,625	100.00	50,000	1.06%	366,625	7.80%	416,625	8.87%
IV	C Kpg	-	-	-	-	-	-	-	-
	F	4,142,125	88.17	-	-	-	-	-	-
	B Kpg	4,697,625	100.00	75,000	1.60%	480,500	10.23%	555,500	11.83%
C Kpg	-	-	-	-	-	-	-	-	

Source: Primary and secondary data, 2008

The Role of NTT and Kupang Local Government Policies

Livestock development in NTT, and Kupang Regency directed to improve the welfare of farmers through the optimization of farm resources utilization. Therefore, local government policies related to livestock development (mainly cattle), was focused on efforts to optimize the potency utilization for farmer welfare, increase revenue, increase economic growth and accelerating changes in economic structure and maintain its sustainability. The programs implemented were: 1) Improvement Breeder Production and Productivity, 2) Economic Institutional Strengthening of Breeder, and 3) Management, Supervision and Settings Livestock Rearing and Commerce.

The first program was aimed to increase production and productivity of livestock at farmer level as food security, strengthened of agro-industry development, and increase farmer income and local district revenues. The second program was aimed to: 1) strengthen the economic institutional of breeders to support the production, processing, marketing and provision of production inputs, and 2) functioning of economic institutions as a farmers learning media in developing business and technical skills. The third program was aimed: 1) Encourage to increase the cattle population and good management of animal farm, and 2) to ensure a justice trade between farmers, traders and governments.

Another aspect that requires more accurate treatment is related to the development efforts of local butchery industries. This is intended to beef cattle marketing activities in the form of live cattle for meat fulfillment of national interests that had been continue can be changed in structure. Thus, delivery of live cattle shipment is substituted by fresh meat (frozen meat). The advantage of this policy development is to suppress leakage areas (regional leakages) through increased absorption of added value in the area of NTT and / or the Kupang regency in particular. It also will increase employment and to encourage increased production of beef cattle are more significant.

CONCLUSIONS

Beef cattle commodity in NTT and Regency of Kupang is potential commodity to be trade out of the region, where NTT occupies fifth position as supplier of cattle livestock. Up to 2006, the amount of cattle that released/exported from NTT were 61.279 heads which was 54.59% from Kupang. Livestock and beef import is big opportunity for NTT to improve potential region.

In general, cattle marketing system in Regency of Kupang was efficient. This was indicated from its cost that was fair. Other Indication is shares marketing for farmer was high compared to to product price that paid by final consumer. Efficient marketing mechanism is impeller energy for intensification effort, extensification, and diversified development of livestock subsector

Local government programs included production, productivity, and marketing management is to optimize livestock potency to increase income, society prosperity, economic grow and economic structure. The changing of marketing structure of livestock commodity and beef cattle is people desire in this region in order to obtain better quality.

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